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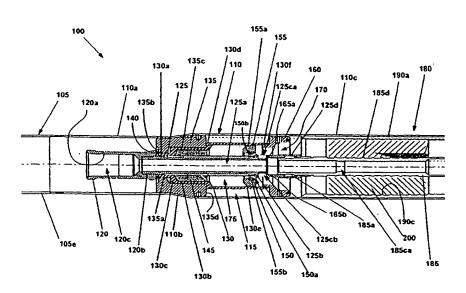
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(54) Title: LINER HANGER



(57) Abstract: An apparatus (100) and method for forming or repairing a wellbore casing by radially expanding a tubular liner (105).

## **AMENDED CLAIMS**

PCT/US2002/020477

[received by the International Bureau on 05 December 2003 (05.12.03); original claims 1 and 5 amended; new claims 7-22 added; remaining claims unchanged (4 pages)]

What is claimed is:

12

1. A method of coupling a radially expandable tubular member to a preexisting structure, comprising:

positioning the tubular member and an expansion device within the preexisting structure;

injecting fluidic materials into the tubular member,

sensing the operating pressure of the fluidic materials; and

radially expanding the tubular member into contact with the preexisting structure when the sensed operating pressure exceeds a predetermined amount by displacing the expansion device relative to the tubular member

- The method of claim 1, wherein sensing the operating pressure includes: sensing the operating pressure of the fluidic materials within the tubular member.
- 3. An apparatus for coupling a radially expandable tubular member to a preexisting structure, comprising:

a first tubular support member including a first internal passage; an expansion cone assembly including:

a second tubular support including a second internal passage operably coupled to the first internal passage, one or more radial openings, and a first releasable coupling;

one or more pressure relief valves positioned in corresponding ones of the radial openings; and

one or more annular expansion cones coupled to the second tubular support; an expansion cone launcher coupled to the annular expansion cones and the radially expandable tubular member; and

a shoe assembly, comprising:

- a third tubular support member including a third internal passage operably coupled to the second internal passage and having a restriction, and a second releasable coupling releasably coupled to the first releasable coupling.
- 4. The apparatus of claim 3, wherein the expansion cone assembly includes a plurality of spaced apart annular expansion cone

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- The apparatus of claim 9, wherein one or more of the expansion members comprise annular expansion cones.
- 11. The method of claim 1, wherein, prior to the radial expansion and plastic deformation of the tubular member, the tubular member comprises:
  - a tapered portion;
  - a non-tapered portion coupled to an end of the tapered portion; and another non-tapered portion coupled to another end of the tapered portion.
- 12. The apparatus of claim 3, wherein the expansion cone launcher comprises: a tapered tubular portion.
- 13. The system of claim 5, wherein, prior to the radial expansion and plastic deformation of the tubular member, the tubular member comprises:
  - a tapered portion;
  - a non-tapered portion coupled to an end of the tapered portion; and another non-tapered portion coupled to another end of the tapered portion.
- 14. The method of claim 1, wherein the tubular member comprises: a wellbore casing.
- 15. The method of claim 1, wherein the tubular member comprises: a pipeline.
- 16. The method of claim 1, wherein the tubular member comprises: a structural support.
- 17. The apparatus of claim 3, wherein the tubular member comprises: a wellbore casing.
- 18. The apparatus of claim 3, wherein the tubular member comprises: a pipeline.
- 19. The apparatus of claim 3, wherein the tubular member comprises: a structural support.
- 20. The system of claim 5, wherein the tubular member comprises: a wellbore casing.

# AMENDED SHEET (ARTICLE 19) BEST AVAILABLE COPY